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| 10/082,829 | 02/20/2002 | Akira Tsukihashi | 81784.0252 | 4622 |

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| 26021 | 7590 | 12/15/2004 | |

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| EXAMINER |
|---|
| YANCHUS III, PAUL B |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2116 | |

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 7/30/02.

2a) ☐ This action is **FINAL**. 　　2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-20* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All 　b)☐ Some * 　c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Klaassen et

al., US Patent no. 6,622,252 [Klaassen].

Regarding claim 17, Klaassen discloses a method of determining a rate of transfer

comprising:

determining a type of power source [column 6, line 61 – column 7, line 2];

setting an amount of current to be supplied to a processing circuit conducting processing

for data transfer, based on a result of the determination of the type of power source [column 7,

lines 44-58]; and

setting operation clocks for the processing circuit according to the determination of the

type of power source [column 3, line 66 – column 4, line 6 and column 7, lines 48-51], wherein

a data transfer rate is set according to the type of power source [column 4, lines 7-16].

Regarding claim 18, Klaassen further discloses determining whether an external power

source is connected, and when it is determined that an external power source is connected,

increasing the amount of current and setting a faster clock, so that high speed data transfer is

carried out, and when it is determined that no external power source is connected, reducing the

amount of current and setting a slower clock, so that slow speed data transfer is carried out

[column 3, line 66 – column 4, line 6 and column 7, lines 44-58].

## Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Klaassen et al., US Patent no. 6,622,252 [Klaassen], in view of, Kida, US Patent no. 6,735,671.

Regarding claim 1, Klaassen discloses a circuit comprising:

a power source determination circuit for determining a type of power source [controller,

column 6, line 61 – column 7, line 2];

a power feeding switching circuit [switching power supply] for setting an amount of

current to be supplied to a processing circuit conducting processing for data transfer, based on a

result of determination made by the power source determination circuit [column 7, lines 44-58];

and

a clock switching circuit for setting operation clocks for the processing circuit according

to a result of determination made by the power source determination circuit [column 3, line 66 –

column 4, line 6 and column 7, lines 48-51], wherein

a data transfer rate is set according to the type of power source [column 4, lines 7-16].

Klaassen states that the circuit may be used in any rotational storage device, but does not explicitly disclose that the circuit may used in a storage device with a USB interface. Kida discloses a hard disk drive with USB interface circuitry [column 3, lines 3-10]. It would have been obvious to one of ordinary skill in the art to include the USB interface circuitry in the Kida hard drive in the Klaassen storage device to enable the storage device to be compatible with the widely used USB protocol.

Regarding claim 2, Klaassen further discloses that the power source determination circuit determines whether an external power source is connected, and when is determined that an external power source is connected, the power feeding switching circuit increases the amount of current and the clock switching circuit sets a faster clock, so that high speed data transfer is carried out, and when is determined that no external power source is connected, the power feeding switching circuit causes to reduce the amount of current and the clock switching circuit sets a slower clock, so that slow speed data transfer is carried out [column 3, line 66 – column 4, line 6 and column 7, lines 44-58].

Regarding claims 3 and 4, Klaassen and Kida disclose a storage device with USB interface circuitry, but do not explicitly state that the high speed data transfer specifically conforms to the USB version 2.0 specification and the slow speed data transfer specifically conforms to the USB version 1.1 specification. However, USB version 2.0 is a well known high speed data transfer protocol and USB version 1.1 is a well known slower speed data transfer protocol. It would have been obvious to one of ordinary skill in the art to modify the Klaassen and Kida storage device to conform to the USB version 2.0 and USB version 1.1 protocols to

ensure that the storage device is compatible with the well known and widely used USB version

2.0 and USB version 1.1 protocols.

Regarding claim 5, Klaassen disclose that the circuit is used in a storage device that is

located in a portable computer [column 2, lines 32-40].

Regarding claim 6, Klaassen and Kida do not explicitly disclose that the disk drive

apparatus sends the computer data concerning a data transfer rate at a time of resetting the

interface circuit. However, it would have been obvious to one of ordinary skill in the art that

some sort of indication regarding the transfer rate would be sent to the computer to ensure that

the disk drive and the computer may successfully communicate data.

Regarding claim 7, Klaassen disclose a circuit comprising:

a power source determination means for determining a type of power source [controller,

column 6, line 61 – column 7, line 2];

a power switching means [switching power supply] for switching between a proper

amount of current to be supplied to a processing circuit conducting processing for data transfer,

based on a result of determination made by the power source determination means [column 7,

lines 44-58]; and

a clock switching means for setting operation clocks for the processing circuit according

to a result of determination made by the power determination means [column 3, line 66 – column

4, line 6 and column 7, lines 48-51], wherein

a data transfer rate is set according to the type of power source [column 4, lines 7-16].

Klaassen states that the circuit may be used in any rotational storage device, but does not

explicitly disclose that the circuit may used in a storage device with a USB interface. Kida

discloses a hard disk drive with USB interface circuitry [column 3, lines 3-10]. It would have been obvious to one of ordinary skill in the art to include the USB interface circuitry in the Kida hard drive in the Klaassen storage device to enable the storage device to be compatible with the widely used USB protocol.

Regarding claim 8, Klaassen further discloses that the power source determination means determines whether an external power source is connected, and when it is determined that an external power source is connected, the power switching means increases the amount of current and the clock switching means sets a faster clock, so that high speed data transfer is carried out, and when it is determined that no external power source is connected, the power switching means causes to reduce the amount of current and the clock switching means sets a slower clock, so that slow speed data transfer is carried out [column 3, line 66 – column 4, line 6 and column 7, lines 44-58].

Regarding claims 9 and 10, Klaassen and Kida disclose a storage device with USB interface circuitry, but do not explicitly state that the high speed data transfer specifically conforms to the USB version 2.0 specification and the slow speed data transfer specifically conforms to the USB version 1.1 specification. However, USB version 2.0 is a well known high speed data transfer protocol and USB version 1.1 is a well known slower speed data transfer protocol. It would have been obvious to one of ordinary skill in the art to modify the Klaassen and Kida storage device to conform to the USB version 2.0 and USB version 1.1 protocols to ensure that the storage device is compatible with the well known and widely used USB version 2.0 and USB version 1.1 protocols.

Regarding claim 11, Klaassen disclose that the circuit is used in a storage device that is located in a portable computer [column 2, lines 32-40].

Regarding claim 12, Klaassen and Kida do not explicitly disclose that the disk drive apparatus sends the computer data concerning a data transfer rate at a time of resetting the interface circuit. However, it would have been obvious to one of ordinary skill in the art that some sort of indication regarding the transfer rate would be sent to the computer to ensure that the disk drive and the computer may successfully communicate data.

Regarding claims 19 and 20, Klaassen states that the method may be used in any rotational storage device, but does not explicitly disclose that the circuit may used in a storage device with a USB interface. Kida discloses a hard disk drive with USB interface circuitry [column 3, lines 3-10]. It would have been obvious to one of ordinary skill in the art to include the USB interface circuitry in the Kida hard drive in the Klaassen storage device to enable the storage device to be compatible with the widely used USB protocol.

Klaassen and Kida disclose method of determining a rate of transfer of USB interface circuitry, but do not explicitly state that the high speed data transfer specifically conforms to the USB version 2.0 specification and the slow speed data transfer specifically conforms to the USB version 1.1 specification. However, USB version 2.0 is a well known high speed data transfer protocol and USB version 1.1 is a well known slower speed data transfer protocol. It would have been obvious to one of ordinary skill in the art to modify the Klaassen and Kida storage device to conform to the USB version 2.0 and USB version 1.1 protocols to ensure that the storage device is compatible with the well known and widely used USB version 2.0 and USB version 1.1 protocols.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaassen et

al., US Patent no. 6,622,252 [Klaassen], and Kida, US Patent no. 6,735,671, in view of,

Tomlinson et al., US Patent no. 6,735,706 [Tomlinson].

Regarding claims 13 and 14, Klaassen and Kida teach a power supply with selectable

output voltages, but do not explicitly teach that the power supply has a DC/DC converter.

However, as shown by Tomlinson, it is well known in the art to use to DC/DC converters in

power supplies with multiple output voltages [column 4, lines 4-10]. Therefore it would have

been obvious to one of ordinary skill in the art to use a well known DC/DC converter to allow

for multiple output voltages in the selectable output voltage power supply.

Regarding claims 15 and 16, Tomlinson discloses that the power supply may output

voltage values of 2.5V, 3.3V and 5V [column 4, lines 11-12].


*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Sakai, US Patent no. 6,665,81, discloses a method of changing the data transfer rate of a

circuit according to the type of power supply.

Pione, US Patent no. 6,353,894, discloses a power management system for an external

USB hard drive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B Yanchus whose telephone number is (571) 272-3678. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus
December 6, 2004

JOHN R. COTTINGHAM
PRIMARY EXAMINER